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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,942	05/20/2006	Makoto KUMATORIYA	38195.79	9417

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EXAMINER

PEETS, MONIQUE R

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

01/26/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/595,942	Applicant(s) KUMATORIYA ET AL.	
	Examiner MONIQUE PEETS	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 4 and 6 are pending.
2. In view of Applicants amendments, Claims 4-6 rejected under 35 U.S.C. 102(b) as being anticipated by Gopalan et al. (6,211,999) are withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamiyama et al. (6,043,940) in view of Gopalan et al. (6,211,999).

Kamiyama discloses an optical system for optical recording that comprises a hemispheric lens of a single crystal having a refractive index wherein the single-crystal is lithium tantalate [abstract]. Kamiyama further discloses the single-crystal has high crystallinity [col.2'ln25-40]. It is well known in the art that lithium tantalate is made from lithium oxide and tantalum oxide.

Kamiyama fails to disclose the molar composition ratio of lithium oxide and tantalum oxide and the birefringence of lithium tantalate.

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However, Gopalan et al. discloses a lens material comprising a lithium tantalate single-crystal that requires a low voltage and a photo-functional device comprising the crystal. The crystal has a molar fraction of $\text{Li}_2\text{O}/(\text{Ta}_2\text{O}_5 + \text{Li}_2\text{O})$ between 0.492 and 0.50. When the molar fraction is converted into molar composition of $(\text{Ta}_2\text{O}_5 + \text{Li}_2\text{O})$, the range of $(\text{Ta}_2\text{O}_5 + \text{Li}_2\text{O})$ is between 0.967 and 1.00 wherein the birefringence of the lithium tantalate falls within the range [abstract]. Gopalan is silent on the properties of birefringence, however the composition taught by Gopalan is the substantially identical the instant claims, therefore the birefringence possesses the substantially identical range. Gopalan discloses a photo-functional comprising a lithium tantalate single-crystal [claim 3]. Gopalan further discloses the lithium tantalate single-crystal enables crystal perfectness and smaller light absorption [col.9;ln5-10].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Gopalan with Kaniyama because lithium tantalate single-crystal taught by Gopalan enables crystal perfectness and is useful in lens applications.

Response to Arguments

5. Applicant argues; Gopalan et al. does not teach, suggest, or even recognize that only lithium tanalate having a molar composition ratio of $(\text{Li}_2\text{O}/\text{Ta}_2\text{O}_5)$ between 0.975 and 0.982 as recited in Applicant's Claim 4 (among the molar composition ratio of

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($\text{Li}_2\text{O}/\text{Ta}_2\text{O}_5$) between 0.968 and 1.00 disclosed in Gopalan) has a birefringence within - 0.0005 to + 0.0005.

However, the molar composition ratio (0.968 to 1.00) of lithium tantalate taught by Gopalan falls within the range of 0.975 to 0.982 as recited in the instant claim.

Therefore Gopalan teachings read on the limitations of the instant claim.

Applicant argues; Gopalan also fails to teach the relationship between the molar composition ratio and the birefringence of lithium tantalate.

However, the instant claim recites the birefringence of the lithium tantalate is - 0.0005 to + 0.0005, which is (1) a property of lithium tantalate and (2) includes zero (0), when the molar composition ratio is 0.975 to 0.982. Therefore the relationship between the molar composition ratio and the birefringence of lithium tantalate is inherent.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONIQUE PEETS whose telephone number is (571)270-7351. The examiner can normally be reached on Monday thru Friday, 8:00am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MRP

/Ling-Siu Choi/
Primary Examiner, Art Unit 1796